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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,468	11/03/2005	Philippe Bellanger	279339US2PCT	8940

22850 7590 07/07/2009
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EXAMINER	
MARC, MCDIEUNEL	

ART UNIT	PAPER NUMBER
3664	

NOTIFICATION DATE	DELIVERY MODE
07/07/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/553,468	BELLANGER, PHILIPPE	
	Examiner	Art Unit	
	MCDIEUNEL MARC	3664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _20 October 2006_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _10-22_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _10-22_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _17 October 2005_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _1/17/2006_.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 10-22 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claims 10-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Dependent claims not specifically rejected are rejected as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 10-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mack (Minimally Invasive and Robotic Surgery, 2001) in view IIcewicz (Scaling crucial to integrated product development of composite aerospace structures. Part 1, 199).

As per claim 10, Mack teaches a device for providing computer-aided assistance (see fig. on page 571, wherein the surgeon's console being taken computer-aided) with movements continuously during processing of a material, comprising: a referent of the material to process defined according to an absolute reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material); a work station equipped with target objects having a function of resetting a metrologic system after it has been displaced; a

tool (see fig. 571, the robotic arms) scaling system (see fig. on page 571, wherein the enhanced image has been considered as scaling); at least one tool (see fig. 571, the robotic arms) for machining the material; an absolute reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material) serving as a referent for a computer carrying out acquisition, storage, and processing of data issued by the metrologic system and continuously propagating an effect of displacements of the at least one tool (see fig. 571, the robotic arms), relative to the material to be machined and that is being processed, to one or more digital models, wherein the metrologic system has a function of continuously measuring a position of the at least one tool (see fig. 571, the robotic arms) and of the material to be machined and that is being processed; and a stimuli generator continuously informing an operator of the position of the at least one tool (see fig. 571, the robotic arms) relative to the material to be machined and that is being processed, by increasing reality of actions/reactions that the operator's job involves, by a choice of multiple and simultaneous sensory returns (see fig. 571, the robotic arms contains sensory/feedback).

With respect to claim 18, Mack teaches a device for providing computer-aided assistance (see fig. on page 571, wherein the surgeon’s console being taken computer-aided) with movements continuously during processing of a material, comprising: a referent of the material to process defined according to an absolute reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material); a work station equipped with target objects having a function of resetting a metrologic system that can be modulated and identified with aid of an entire set of target objects placed on the work station after it has been displaced; a tool (see fig. 571, the robotic arms) scaling system (see fig. on page

571, wherein the enhanced image has been considered as scaling); at least one tool (see fig. 571, the robotic arms) for machining the material; an absolute reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material) serving as a referent for a computer carrying out acquisition, storage, and processing of data issued by the metrologic system and continuously propagating an effect of displacements of the at least one tool (see fig. 571, the robotic arms) relative to the material to be machined and that is being processed, to one or more digital models, wherein the metrologic system has a function of continuously measuring a position of the at least one tool (see fig. 571, the robotic arms) and of the material to be machined and that is being processed; a stimuli generator continuously informing an operator of the position of the at least one tool (see fig. 571, the robotic arms) relative to the material to be machined and that is being processed, by increasing reality of actions/reactions that the operator's job involves, by a choice of multiple and simultaneous sensory returns, the stimuli generator supplying sensory returns of multiple view type, at variable scales, of the one or more digital models in which the at least one tool (see fig. 571, the robotic arms) is represented throughout all its displacements, displayed as a reaction reserve that can be programmed in relation to density/scale factor of the material being machined, or the stimuli generator supplying sensory returns of sound type and/or a pull-back in force that have variable and increasing intensity in relation to a gradual approach of the at least one tool (see fig. 571, the robotic arms) and its reserve in the one or more digital models with respect to a closest possible punctual contact (see fig. 571, the robotic arms for punctuation).

With respect to claim 22, Mack teaches a system an iterative action/information method for providing continuous computer-aided assistance (see fig. on page 571, wherein the

surgeon's console being taken computer-aided) and learning with regard to manual movements during processing of a material, comprising: defining at least one reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material) with a view to scaling a work station; defining at least one digital model of a shape to be attained of a material to process, in relation to a referent known at any instant in relation to an absolute reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material); establishing a placement of the at least one digital model of a shape to be attained in the at least one digital model of the material to process; defining a digital model of the tool (see fig. 571, the robotic arms) specified by the physical and geometric parameters designed to machine the material by scaling it according to a reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material) known at any instant in relation to the absolute reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material); obtaining necessary data for knowing a position of the at least one tool (see fig. 571, the robotic arms) in relation to the at least one digital model of the shape to be attained; obtaining a quasi-simultaneous updating of the at least one digital model of a machined material with respect to effect of the at least one tool (see fig. 571, the robotic arms) on the material, which is induced by manual movements of an operator; and obtaining a quasi-simultaneous analysis of the work results furnished by the at least one digital model of the machined material and of the movements (see fig. on page 571, wherein updating has been considered as current surgical application). Although, Mack does not strongly teach a tool scaling in the above claims.

IIcewicz, teaches teach a tool scaling strongly (see page 392, col. 2).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the robot type of Mack, with the tool type of IIcewicz, because this modification would have provided the scaling tool in to IIcewicz's, thereby improving the efficiency and the reliability of the device for providing assistance with manual movements during material processing.

As per claim 11, Mack teaches a system wherein the metrologic system comprises an articulated arm for measuring or a localization system holding the at least one tool (see fig. 571, the robotic arms), and is balanced by an adjustable lifting system (see fig. 571, the robotic arms have been considered as having lifting function).

As per claim 12, Mack teaches a system wherein the position of the metrologic system is modulated and identified with aid of an entire set of target objects placed on the work station (see fig. 571, particularly the console).

As per claim 13, Mack teaches a system wherein, at any instant, measurable displacements of the material are taken into account to enable action of the at least one tool (see fig. 571, the robotic arms) on the material, based on continuous balancing of the one or more digital models with the absolute reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material).

As per claim 14, Mack teaches a system wherein the stimuli generator supplies sensory returns of multiple view type, at variable scales, of the one or more digital models in which the at least one tool (see fig. 571, the robotic arms) is represented throughout all its displacements,

displayed as a reaction reserve that can be programmed in relation to density/scale factor of the material being machined (see fig. 571, wherein the enhanced image as been taken as scaling).

As per claim 15, Mack teaches a system wherein the stimuli generator supplies sensory returns of sound type and/or a pull-back in force that have variable and increasing intensity in relation to a gradual approach of the at least one tool (see fig. 571, the robotic arms) and its reserve in the one or more digital models with respect to a closest possible punctual contact (see fig. 571, the robotic arms for punctuation).

As per claim 16, Mack teaches a system wherein representation of the at least one tool (see fig. 571, the robotic arms) in views is enhanced by a physical representation of an axis of support of the at least one tool (see fig. 571, the robotic arms) and of a shortest path separating a tool (see fig. 571, the robotic arms) model from a closest possible punctual contact (see fig. 571, the robotic arms for punctuation) in the one or more digital models (see fig. 571, wherein the console contains a digital model and the enhanced image).

As per claim 17, Mack teaches a system wherein display of the one or more digital models of a shape to be attained has a locally improved resolution, and is preset by characteristics to an exact sequence of movements of the at least one tool in space (see fig. 571, the robotic arms).

As per claim 19, Mack teaches a system wherein the metrologic system comprises an articulated arm for measuring or a localization system holding the at least one tool (see fig. 571, the robotic arms), and is balanced by an adjustable lifting system (see fig. 571, the robotic arms have been considered as having lifting function).

As per claim 20, Mack teaches a system wherein, at any instant, measurable displacements of the material are taken into account to enable action of the at least one tool (see fig. 571, the robotic arms) on the material, based on continuous balancing of the one or more digital models with the absolute reference system (see fig. on page 571, wherein the robotic arms perform on human, which could have been any material).

As per claim 21, Mack teaches a system wherein representation of the at least one tool (see fig. 571, the robotic arms) in views is enhanced by a physical representation of an axis of support of the at least one tool (see fig. 571, the robotic arms) and of a shortest path separating a tool (see fig. 571, the robotic arms) model from a closest possible punctual contact (see fig. 571, the robotic arms for punctuation) in the one or more digital models (see fig. 571, wherein the console contains a digital model and the enhanced image).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MCDIEUNEL MARC whose telephone number is (571)272-6964. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on (571) 272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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